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flection ; proceed at once to the observation of vibration, determining the coefficient of torsion at the end ; and, lastly, make the preliminary arrangements (of detorsion, &c.), for the determination of the Declination, deferring the observation itself until 1 P. M. If there be a second observer, he should undertake the observation of Inclination, and such sextant observations as may be required for the determination of the Latitude, the Time, or the true Meridian. The observation of Inclination should be simultaneous with that of the Horizontal Intensity ; the astronomical observations may be made whenever most convenient.

The Theodolite Magnetometer may likewise be employed with advantage in a fixed observatory, especially in observations of the absolute Intensity ; and it is worthy of remark, that if the *differential* instruments used in connexion with it be small ones, the circle of this instrument may be employed in their adjustments, and their construction thus reduced to the simplest possible form.

Mr. Wm. R. Wilde read a notice of the opening of some Tumuli, by Mr. Nugent, and the Rev. Dr. Todd (V. P.) on the part of Mr. Nugent, presented a stone of a peculiar form, found in one of the Tumuli described.

The thanks of the Academy were given to Mr. Nugent, for his communication and donation.

Mr. R. Mallet presented the results of his analysis of a porcelain clay, discovered some years ago by him, at Howth, and since extensively brought into use for the manufacture of crucibles.

The clay is found upon the southern side of the peninsula of Howth, which consists principally of quartz rock ; it exists in large concretionary masses, or highly irregular beds, and appears to have reached its present position by

the transport of water. It is found of every degree of fineness, from a coarse gritty mass of decomposing pebbles, with occasional large nodules of friable felspar, to that of an impalpable colourless clay, like that of Dorsetshire, known as pipe-clay. This is soft, sectile, adheres to the tongue, and forms a strongly adhesive and plastic mass with water, capable of being moulded upon the potter's wheel into the finest forms.

It bakes perfectly white, or occasionally of the slightest possible rosy tint of white.

Some of the masses of this mineral are strongly discoloured by iron and manganese, and imbedded in the finest parts are occasionally found a few fragments of marine shells, and bits of wood.

By washing with abundance of water, a fine quartzose sand is separable from even the finest portions of this clay. This sand is white, but water separates from it a little sand of a darker colour, like common sea sand of the Dublin coast, and a few microscopic flakes of mica.

A singular minute black worm is found in this clay, which may be worth the attention of naturalists.

The clay, as dug out, does not effervesce with acid, and is insoluble in them; it yields no soluble matter to water, and appears to contain no alkali in any specimens yet examined.

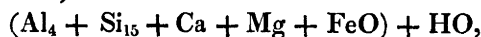
Mr. Mallet, however, has reason to think that the less fully decomposed portions of the clay may contain alkali in a soluble condition, and hence render the material valuable as a manure.

Some of the finest portion of the clay, washed from the sand, and dried at a temperature of 212° Fah., was found by Mr. Mallet to have the following composition. The analysis having been conducted in the usual way, and with the usual precautions, it does not seem necessary to detail its steps:

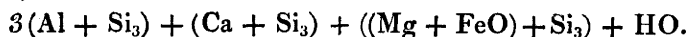
Silica,	67.96
Alumina,	23.20
Lime,	3.23
Magnesia,	0.63
Oxide of Iron,	1.19
Water,	2.80
	<hr/>
	99.01

As no washing completely removes the presence of sand from this clay, which always feels gritty to a glass rod, and as it contains comminuted mica, it could not be expected that its analysis should present a precisely mineralogical result.

From the close analogy, however, which the above figures present to the composition of various felspathic rocks, as analysed by Beudant, Berthier, &c., there can be little doubt but that the geothetic origin of this clay is the decomposition of felspar, or other allied granitic minerals. In fact the results approximate to the formula (taking the iron and magnesia together).



or,



This clay is of very great economic value, and capable of being used for the manufacture of the finer descriptions of pottery or even of porcelain; it has, however, hitherto only been brought into use for the manufacture of crucibles, by Mr. Mallet.

The President read a paper on an improvement in the double achromatic object glass.

DONATIONS.

Life of W. V. Morrison, Esq., M.R.I.A. By John Morrison, Esq. Presented by the Author.